LUPEROX® CU90

1. PRODUCT AND COMPANY IDENTIFICATION

Company

Arkema Inc.
900 First Avenue
King of Prussia, Pennsylvania 19406

Functional Additives

Customer Service Telephone Number: (800) 331-7654
(Monday through Friday, 8:00 AM to 5:00 PM EST)

Emergency Information

Transportation: CHEMTREC: (800) 424-9300
(24 hrs., 7 days a week)
Medical: Rocky Mountain Poison Center: (866) 767-5089
(24 hrs., 7 days a week)

Product Information

Product name: LUPEROX® CU90
Synonyms: Not available
Molecular formula: Complex mixture
Chemical family: Organic peroxide - hydroperoxides
Product use: Free radical polymerization initiator

2. HAZARDS IDENTIFICATION

Emergency Overview

Color: light yellow
Physical state: liquid
Odor: aromatic, pungent

***Classification of the substance or mixture:**
Flammable liquid., Category 4, H227
Organic peroxides, Type F, H242
Oral: Acute toxicity, Category 4, H302
Inhalation: Acute toxicity, Category 2, H330
Dermal: Acute toxicity, Category 3, H311
Skin corrosion, Category 1B, H314
Serious eye damage, Category 1, H318
Carcinogenicity, Category 2, H351
Specific target organ toxicity - repeated exposure, Category 2, H373
Chronic aquatic toxicity, Category 2, H411

*For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labelling

Hazard pictograms:

Signal word: **Danger**

Hazard statements:

H227 : Combustible liquid.
H242 : Heating may cause a fire.
H302 : Harmful if swallowed.
H311 : Toxic in contact with skin.
H314 : Causes severe skin burns and eye damage.
H330 : Fatal if inhaled.
H351 : Suspected of causing cancer.
H373 : May cause damage to organs through prolonged or repeated exposure.
H411 : Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements:

Specific target organ toxicity - repeated exposure:
upper respiratory tract.
Organic peroxide.
Hazardous decomposition may occur.

Precautionary statements:

Prevention:
P201 : Obtain special instructions before use.
P202 : Do not handle until all safety precautions have been read and understood.
P210 : Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220 : Keep/Store away from clothing/ combustible materials.
P234 : Keep only in original container.
P260 : Do not breathe gas/mist/vapours/spray.
P264 : Wash skin thoroughly after handling.
P270 : Do not eat, drink or smoke when using this product.
P271 : Use only outdoors or in a well-ventilated area.
P273 : Avoid release to the environment.
P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.
P281 : Use personal protective equipment as required.
P284 : Wear respiratory protection.

Response:
P301 + P312 : IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P301 + P330 + P331 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 : IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 : IF exposed or concerned: Get medical advice/ attention.
P310 : Immediately call a POISON CENTER/doctor.
P363 : Wash contaminated clothing before reuse.
P370 + P378 : In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P391 : Collect spillage.

Storage:
P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.
P405 : Store locked up.
P410 : Protect from sunlight.
P411 + P235 : Maximum storage temperature is specified on label and in section 7 of SDS. Keep cool.
P420 : Store away from other materials.

Disposal:
P501 : Dispose of contents/ container to an approved waste disposal plant.

Supplemental information:

Potential Health Effects:
Prolonged or repeated skin contact may cause defatting resulting in drying, redness and rash. If swallowed, may cause severe irritation and injury to the mouth, throat and digestive tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9	<= 90 %	H302, H311, H330, H314, H318, H411, H373
Benzenemethanol, .alpha.,.alpha.-dimethyl-	617-94-7	<= 10 %	H302, H315, H319
Cumene	98-82-8	<= 5 %	H226, H304, H335, H411, H351
Ethanone, 1-phenyl-	98-86-2	<= 2 %	Not classified

**For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1. Description of necessary first-aid measures:

General advice:
POISON! Call a Poison Control Center immediately. Get medical attention immediately.

Inhalation:
If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Skin:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Call a Poison Control Center. Wash clothing before reuse. Destroy contaminated shoes.

Eyes:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion:
If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. Rinse mouth.

4.2. Most important symptoms/effects, acute and delayed:

For most important symptoms and effects (acute and delayed), see Section 2 (Hazard Statements and Supplemental Information) and Section 11 (Toxicology Information) of this SDS.

4.3. Indication of immediate medical attention and special treatment needed, if necessary:

Unless otherwise noted in Notes to Physician, no specific treatment noted; treat symptomatically.

5. FIREFIGHTING MEASURES

Extinguishing media (suitable):
Water spray, Carbon dioxide (CO2), Foam, Dry chemical

Extinguishing media (unsuitable):
Water may be ineffective., Do not use a solid water stream as it may scatter and spread fire.

Protective equipment:
Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

Further firefighting advice:
Fight fire with large amounts of water from a safe distance.
Cool closed containers exposed to fire with water spray.
Closed containers of this material may explode when subjected to heat from surrounding fire.
After a fire, wait until the material has cooled to room temperature before initiating clean-up activities.
Do not allow run-off from fire fighting to enter drains or water courses.
Fire fighting equipment should be thoroughly decontaminated after use.

Fire and explosion hazards:
Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite.

When burned, the following hazardous products of combustion can occur:
Carbon oxides
Hazardous organic compounds

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, Emergency procedures, Methods and materials for containment/clean-up:
Prevent further leakage or spillage if you can do so without risk. Evacuate area of all unnecessary personnel. Ventilate the area. Eliminate all ignition sources. Avoid generation of vapors. Contain and collect spillage with non-combustible absorbent material such as sodium bicarbonate, sodium carbonate, calcium carbonate, clean sand or non-acidic clay and then wet down (dampen) the mixture with water. DO NOT USE peat moss. Sweep or scoop up using non-sparking tools and place into suitable properly labeled containers for prompt disposal. The sweepings should be wetted down further with water. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Protective equipment:
Appropriate personal protective equipment is set forth in Section 8.

7. HANDLING AND STORAGE

Handling

General information on handling:
Contact with materials to avoid or exposure to temperatures exceeding the SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may autoignite.
Do not taste or swallow.
Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Keep away from heat, sparks and flames.
No smoking.
Use only with adequate ventilation.
Wash thoroughly after handling.
Prevent product contamination.
Keep container tightly closed and away from combustible materials.
Keep only in the original container.
Check that all equipment is properly grounded and installed to satisfy electrical classification requirements.
Follow label warnings even after container is emptied.
RESIDUAL VAPORS MAY EXPLODE ON IGNITION.
DO NOT CUT, DRILL, GRIND, OR WELD ON OR NEAR THIS CONTAINER.
Do not reuse container as it may retain hazardous product residue.
Emptied container retains product residue.
Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Storage

General information on storage conditions:
Keep container closed when not in use. Store in closed containers, in a secure area to prevent container damage and subsequent spillage. Store in upright position only. Outside or detached storage is preferred. Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly grounded and installed to satisfy electrical classification requirements. Store out of direct sunlight in a cool well-ventilated place. Store in original container. Store away from combustibles and materials to avoid. Refer also to National Fire Protection Association (NFPA) Code 400, Hazardous Materials Code. Static electricity may accumulate when transferring material. All metal and groundable storage containers,

including but not limited to drums, cylinders, Returnable Intermodal Bulk Containers (RIBCs) and Class C Flexible Intermodal Bulk Containers (FIBCs) must be bonded and grounded during filling and emptying operations. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

Storage stability – Remarks:
Follow the recommended storage temperatures provided in this Section in order to maintain stability and oxygen content.

Storage incompatibility – General:
Store away from excessive heat, sources of ignition, and reactive materials.
Store separate from:
Strong acids
Strong bases
Strong oxidizing agents
Reducing agents
Accelerators
Friedel - Crafts reaction catalyst
transition metal salts
metal ions
Brass
Copper
Iron
For all Organic Peroxides, compatible materials of contact are stainless steel 304 or 316 (preferred), high-density polyethylene (HDPE), polytetrafluoroethylene or glass linings.

Temperature tolerance – Do not store above:
86 °F (30 °C)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Hydroperoxide, 1-methyl-1-phenylethyl (80-15-9)

US. OARS. WEELs Workplace Environmental Exposure Level Guide

Time weighted average	1 ppm (6 mg/m3)
Skin designation Remarks:	Can be absorbed through the skin.
Remarks:	Listed

Cumene (98-82-8)

US. ACGIH Threshold Limit Values

Time weighted average	50 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL:	50 ppm (245 mg/m3)

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Skin designation Remarks:	Can be absorbed through the skin.

Ethanone, 1-phenyl- (98-86-2)

US. ACGIH Threshold Limit Values

Time weighted average	10 ppm

US. OARS. WEELs Workplace Environmental Exposure Level Guide

Time weighted average	10 ppm (50 mg/m3)
Remarks:	Listed

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

Engineering controls:
Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above).If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Respiratory protection:
Do not breathe vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Skin protection:
Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact.

Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing immediately and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

Eye protection:
Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	light yellow
Physical state:	liquid
Odor:	aromatic, pungent
Odor threshold:	No data available.
Flash point	estimated 181 - 185 °F (83 - 85 °C)
Auto-ignition temperature:	No data available.
Lower flammable limit (LFL):	No data available.
Upper flammable limit (UFL):	No data available.
pH:	3 - 8
Density:	No data available.
Specific Gravity (Relative density):	1.05 Water=1 (liquid)
Vapor pressure:	1.5 mmHg (68 °F (20 °C))
Relative vapor density:	5.4 (Air = 1.0)
Vapor density:	No data available.
Boiling point/boiling range:	Decomposes before boiling. Rate of decomposition increases with rising temperature.
Melting point/range:	No data available.
Freezing point:	No data available.
Evaporation rate:	No data available.

Solubility in water:	Slightly soluble
Viscosity, dynamic:	No data available.
Oil/water partition coefficient:	No data available.
Self-Accelerating Decomposition Temperature (SADT):	180 °F (82 °C) 5 gallon container
Thermal decomposition:	No data available.
Active oxygen content:	> 9.25 %
Flammability:	See GHS Classification in Section 2

10. STABILITY AND REACTIVITY

Stability:
This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this SDS for specified conditions.

Hazardous reactions:
Hazardous polymerization does not occur.

Materials to avoid:
Strong acids
Strong bases
Strong oxidizing agents
Reducing agents
Accelerators
Friedel - Crafts reaction catalyst
transition metal salts
metal ions
Brass
Copper
Iron
For all Organic Peroxides, compatible materials of contact are stainless steel 304 or 316 (preferred), high-density polyethylene (HDPE), polytetrafluoroethylene or glass linings.

Conditions / hazards to avoid:
See HANDLING AND STORAGE section of this SDS for specified conditions. SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

Hazardous decomposition products:

Temperatures at or above SADT can result in the release of hazardous decomposition products which are

flammable and may autoignite.
Thermal decomposition giving flammable and toxic products :
Carbon oxides
Hazardous organic compounds

11. TOXICOLOGICAL INFORMATION

Data on this material and/or its components are summarized below.

Data for LUPEROX® CU90

Acute toxicity

Oral:
Acute toxicity estimate 419.44 mg/kg.

Dermal:
Acute toxicity estimate 330.11 mg/kg.

Inhalation:
4 h Acute toxicity estimate 1.44 mg/l. (vapor)

Data for Hydroperoxide, 1-methyl-1-phenylethyl (80-15-9)

Acute toxicity

Oral:
Harmful if swallowed. (rat) LD50 = 382 mg/kg. (73 %)

Dermal:
Toxic in contact with skin. (rat) LD50 = 500 - 1,000 mg/kg. (23 %)

Inhalation:
Fatal if inhaled. (rat) 4 h LC50 = 1.3 mg/l (220 ppm). (vapor)

Skin Irritation:
Causes severe skin burns. (rabbit) (4 h)

Causes mild skin irritation. (rabbit) (4 h) (7 %) (dilute solutions)

Eye Irritation:
Causes serious eye damage. (rabbit) Irritation Index: 65/110. (10 %)

Causes mild eye irritation. (rabbit) Irritation Index: 6/110. (1 %)

Repeated dose toxicity
Subchronic inhalation administration to rat / affected organ(s): upper respiratory tract / signs: breathing difficulties, irritation / Local irritation

Chronic dermal administration to mouse / affected organ(s): site of contact / signs: hair loss, irritation

Genotoxicity

Assessment in Vitro:
Both positive and negative responses for genetic changes were observed in laboratory tests using: bacteria

Genotoxicity

Assessment in Vivo:
No genetic changes were observed in laboratory tests using: mice

Data for Benzenemethanol, .alpha.,.alpha.-dimethyl- (617-94-7)

Acute toxicity

Oral:
Harmful if swallowed. (rat) LD50 = 1,070 - 3,000 mg/kg.

Dermal:
May be harmful in contact with skin. (rabbit) LD50 = 4,300 mg/kg.

Skin Irritation:
Causes skin irritation. (rabbit) (24 h) (occluded exposure)

Eye Irritation:
Causes serious eye irritation. (rabbit)

Repeated dose toxicity
Repeated oral administration to rat / No adverse systemic effects reported.

Repeated administration to guinea pig / affected organ(s): eye / signs: irritation / (reversible)

Data for Cumene (98-82-8)

Acute toxicity

Oral:
May be harmful if swallowed. (rat) LD50 = 2,700 - 2,910 mg/kg.

Dermal:
Practically nontoxic. (rabbit) LD50 > 10,000 mg/kg.

Inhalation:
Practically nontoxic. (rat) 4 h LC50 = 30 mg/l. (vapor)

Signs/effects reported after acute exposure (mouse) 0.5 h RD50 approximately 10 mg/l. signs: respiratory depression, irritation

Skin Irritation:
Causes mild skin irritation. (rabbit) Irritation Index: 3.7/8.0. (24 h)

Eye Irritation:
Not irritating. (rabbit) Irritation Index: 7.6/110.

Skin Sensitization:
Not a sensitizer. Guinea pig maximization test. No skin allergy or irritation was observed.

Repeated dose toxicity
Chronic oral administration to rat / affected organ(s): kidney / signs: increased organ weight

Subchronic inhalation administration to rat / affected organ(s): blood, kidney, liver / signs: changes in organ structure or function / (vapor)

Subchronic inhalation administration to mouse / affected organ(s): liver / signs: changes in organ structure or function / (vapor)

Chronic inhalation administration to guinea pig, dog, monkey / No adverse effects reported. (vapor)

Carcinogenicity
Chronic inhalation administration to rat and mouse / affected organ(s): lung, upper respiratory tract, kidney / Increase in tumor incidence was reported.
Classified by the International Agency for Research on Cancer as: Group 2B: Possibly carcinogenic to humans.
Listed by the National Toxicology Program as: Reasonably anticipated to be a human carcinogen.

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in laboratory tests using: bacteria, animal cells

Genotoxicity

Assessment in Vivo:
Generally, no genetic changes were observed in laboratory studies using: rats, mice

Developmental toxicity
Exposure during pregnancy. inhalation (rat, rabbit) / No birth defects were observed.

Reproductive effects
Repeated administration. inhalation (rat) / No toxicity to reproduction.

Data for Ethanone, 1-phenyl- (98-86-2)

Acute toxicity

Oral:
May be harmful if swallowed. (rat) LD50 = 2,081 - 3,200 mg/kg.

Dermal:
May be harmful in contact with skin. (rat) LD50 = 3,300 mg/kg. (occluded exposure)

Skin Irritation:
Causes mild skin irritation. (rabbit) Irritation Index: 0.5 - 2.6/8.0.

Eye Irritation:
Not irritating. (rabbit) Irritation Index: 0/110.

Skin Sensitization:
Not a sensitizer. Repeated skin exposure. (guinea pig) No skin allergy was observed

Repeated dose toxicity
Chronic inhalation administration to rat / affected organ(s): olfactory tissue / signs: damage

Repeated oral administration to rat / signs: changes in motor activity, changes in behavior

Subchronic dietary administration to rat / No adverse effects reported.

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in laboratory tests using: bacteria

Both positive and negative responses for genetic changes were observed in laboratory tests using: animal cells

Genotoxicity

Assessment in Vivo:
No genetic changes were observed in a laboratory test using: mice

Developmental toxicity
Reproductive/Developmental Effects Screening Assay. Oral (rat) / Birth defects and toxicity were observed. at doses that produce effects in mothers

Reproductive effects
Reproductive/Developmental Effects Screening Assay. Oral (rat) / levels produced toxic effects in the mothers and offspring / (increased mortality in the offspring, reductions in birth weight)

Human experience
Skin contact:
Skin: No skin allergy was observed. (up to 2% controlled skin contact study)

12. ECOLOGICAL INFORMATION

Chemical Fate and Pathway
Data on this material and/or its components are summarized below.

Data for Hydroperoxide, 1-methyl-1-phenylethyl (80-15-9)

Biodegradation:
Not readily biodegradable. (28 d) biodegradation 3 %

Bioaccumulation:
Slightly bioaccumulable.

Octanol Water Partition Coefficient:
log Pow: = 1.677 °F (25 °C)

Photodegradation:
Air reaction with OH radicals Half-life direct photolysis: 0.25 d

Mobility and Distribution in the Environment:
It is slightly adsorptive in soil and sediment. / Log Koc = 1.4

Data for Cumene (98-82-8)

Biodegradation:
Biodegradable. (28 d) biodegradation > 60 %

Biological Oxygen Demand:
20.0 d BOD = 70 % ThOD (predominantly domestic sewage)

Octanol Water Partition Coefficient:
log Pow: = 3.55

Photodegradation:
Water Direct photolytic degradation: 1.2 - 9.2 %

Data for Ethanone, 1-phenyl- (98-86-2)

Biodegradation:
Readily biodegradable. (14 d) biodegradation 64.70 %
Not readily biodegradable. (28 d) biodegradation < 30 %

Biological Oxygen Demand:
10 d BOD = 56%ThOD (predominantly domestic sewage)
10 d BOD = 90%ThOD (activated sludge)

Bioaccumulation:
calculated 0.48

Octanol Water Partition Coefficient:
log Pow: = 1.63

Ecotoxicology
Data on this material and/or its components are summarized below.

Data for Hydroperoxide, 1-methyl-1-phenylethyl (80-15-9)

Aquatic toxicity data:
Harmful. Leuciscus idus 48 h LC50 = 14 - 17 mg/l
Toxic. Oncorhynchus mykiss 96 h LC50 = 3.9 mg/l

Aquatic invertebrates:
Harmful. Daphnia magna (Water flea) 48 h EC50 = 18 mg/l

Algae:
Toxic. Scenedesmus subspicatus 72 h EC50 (biomass) = 1.6 mg/l
Toxic. Scenedesmus subspicatus 72 h EC50 (growth rate) = 3.1 mg/l

Microorganisms:
Pseudomonas putida 16 h EC50 > 50 mg/l

Chronic toxicity to aquatic plants:

Toxic. Desmodesmus subspicatus (green algae) 72 h NOEC r = 1.0 mg/l

Data for Benzenemethanol, .alpha.,.alpha.-dimethyl- (617-94-7)

Aquatic toxicity data:
Oncorhynchus mykiss (rainbow trout), Bluegill sunfish, Sea lamprey 24 h NOEC = 5 mg/l

Data for Cumene (98-82-8)

Aquatic toxicity data:
Toxic. Oncorhynchus mykiss (rainbow trout) 96 h LC50 = 4.8 mg/l
Toxic. Cyprinodon variegatus (sheepshead minnow) 96 h LC50 = 4.7 mg/l

Aquatic invertebrates:
Toxic. Daphnia magna (Water flea) 48 h EC(I)50 = 2.14 mg/l

Algae:
Toxic. Desmodesmus subspicatus (green algae) 72 h ErC50 = 2.01 - 3.86 mg/l

Microorganisms:
Respiration inhibition / Activated sludge 3 h EC0 > 2,000 mg/l

Chronic toxicity to aquatic invertebrates:
Toxic. Daphnia magna (Water flea) 21 d NOEC (reproduction) = 0.35 mg/l

Chronic toxicity to aquatic plants:
Practically nontoxic. Desmodesmus subspicatus (green algae) 72 h NOEC (growth rate) = 1.49 mg/l

Data for Ethanone, 1-phenyl- (98-86-2)

Aquatic toxicity data:
Practically nontoxic. Pimephales promelas (fathead minnow) 96 h LC50 = 162 - 236 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h LC50 = 528 mg/l

Algae:
Harmful. Pseudokirchneriella subcapitata (green algae) 72 h EbC50 = 40 mg/l
Harmful. Pseudokirchneriella subcapitata (green algae) 72 h ErC50 = 86.4 mg/l

Microorganisms:
Activated sludge 3 h IC50 (Respiration inhibition) > 1,000 mg/l
Tetrahymena pyriformis 40 h IC50 (Growth inhibition) = 346 mg/l

Chronic toxicity to aquatic plants:
Growth inhibition / Pseudokirchneriella subcapitata (green algae) 72 d NOEC = 24.8 mg/l

13. DISPOSAL CONSIDERATIONS

Waste disposal:
Dilution followed by incineration is the preferred method. Dilution ratio of 10:1 in a clean, compatible, combustible solvent (i.e., Fuel Oil #2, mineral oil) will reduce reactivity hazard during incineration and transportation. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other

requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

Take appropriate measures to prevent release to the environment.

14. TRANSPORT INFORMATION

US Department of Transportation (DOT)

UN Number	:	3109
Proper shipping name	:	Organic peroxide type F, liquid
Technical name	:	(Cumyl hydroperoxide, <=90%)
Class	:	5.2
Subsidiary hazard class	:	(8)
Marine pollutant	:	yes
Reportable quantity	:	10 lbs (Hydroperoxide, 1-methyl-1-phenylethyl)

International Maritime Dangerous Goods Code (IMDG)

UN Number	:	3109
Proper shipping name	:	ORGANIC PEROXIDE TYPE F, LIQUID
Technical name	:	(CUMYL HYDROPEROXIDE, <=90%)
Class	:	5.2
Subsidiary hazard class	:	(8)
Marine pollutant	:	yes
Flash point	:	estimated 181 - 185 °F (83 - 85 °C)

15. REGULATORY INFORMATION

Chemical Inventory Status

EU. EINECS	EINECS	Conforms to
US. Toxic Substances Control Act	TSCA	The components of this product are all on the TSCA Inventory.
Canadian Domestic Substances List (DSL)	DSL	All components of this product are on the Canadian DSL
China. Inventory of Existing Chemical Substances in China (IECSC)	IECSC (CN)	Conforms to
Japan. ENCS - Existing and New Chemical Substances Inventory	ENCS (JP)	Conforms to
Japan. ISHL - Inventory of Chemical Substances	ISHL (JP)	Conforms to
Korea. Korean Existing Chemicals Inventory (KECI)	KECI (KR)	Conforms to

Philippines Inventory of Chemicals and Chemical Substances (PICCS)	PICCS (PH)	Conforms to
Australia Inventory of Chemical Substances (AICS)	AICS	Conforms to

United States – Federal Regulations

SARA Title III – Section 302 Extremely Hazardous Chemicals:
The components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.

SARA Title III - Section 311/312 Hazard Categories:
Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Reactivity Hazard

SARA Title III – Section 313 Toxic Chemicals:
The following components are subject to reporting levels established by SARA Title III, Section 313:

Chemical name	CAS-No.	De minimis concentration	Reportable threshold:
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9	1.0 %	10000 lbs (Otherwise used (non-manufacturing/processing)) 25000 lbs (Manufacturing and processing)
Cumene	98-82-8	1.0 %	25000 lbs (Manufacturing and processing) 10000 lbs (Otherwise used (non-manufacturing/processing))
Ethanone, 1-phenyl-	98-86-2	1.0 %	10000 lbs (Otherwise used (non-manufacturing/processing)) 25000 lbs (Manufacturing and processing)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):

Chemical name	CAS-No.	Reportable quantity
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9	10 lbs
Cumene	98-82-8	5000 lbs
Ethanone, 1-phenyl-	98-86-2	5000 lbs

United States – State Regulations

New Jersey Right to Know

Chemical name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Cumene	98-82-8
Ethanone, 1-phenyl-	98-86-2

New Jersey Right to Know – Special Health Hazard Substance(s)

Chemical name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Cumene	98-82-8

Pennsylvania Right to Know

Chemical name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Benzenemethanol, .alpha.,.alpha.-dimethyl-	617-94-7
Cumene	98-82-8
Ethanone, 1-phenyl-	98-86-2

Pennsylvania Right to Know – Environmentally Hazardous Substance(s)

Chemical name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Cumene	98-82-8
Ethanone, 1-phenyl-	98-86-2

California Prop. 65
WARNING! This product contains a chemical known to the State of California to cause cancer.

Chemical name	CAS-No.
Cumene	98-82-8

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H226 Flammable liquid and vapour.
H227 Combustible liquid.
H242 Heating may cause a fire.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Miscellaneous:

Other information:	Refer to National Fire Protection Association (NFPA) Codes 30, 70, 77, and 497 and OSHA 29 CFR 1910.106, for safe handling.

Latest Revision(s):

Reference number:	200014895
Date of Revision:	05/11/2017
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